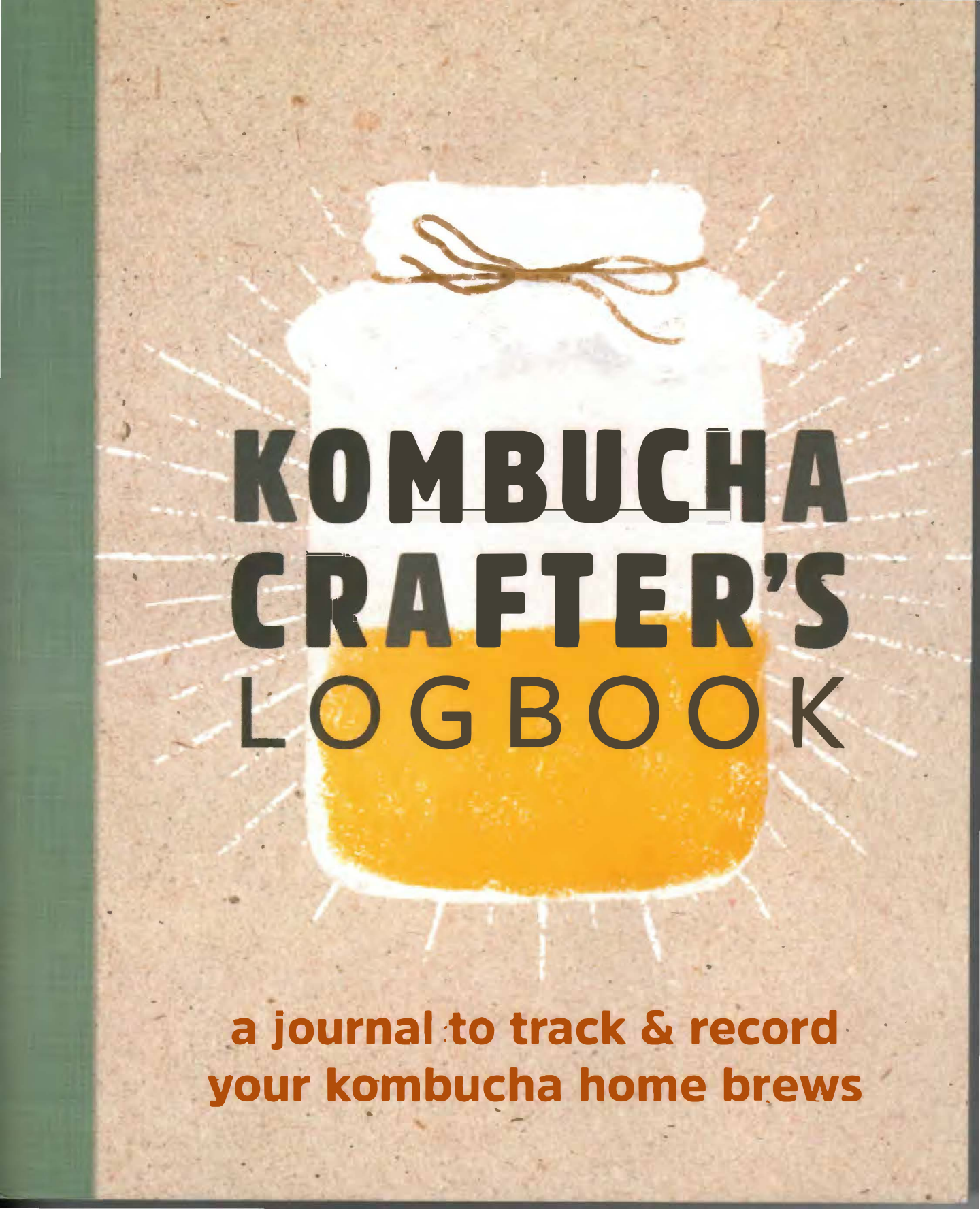
KOMBUCHA
CRAFTER'S
LOGBOOK
a journal to track & record
your kombucha home brews

KOMBUCHA CRAFTER'S LOGBOOK

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A JOURNAL TO TRACK & RECORD YOUR KOMBUCHA HOME BREWS

Angelica Cadiente Kelly

ROCKRIDGE PRESS

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HOW TO USE THIS LOGBOOK

Welcome to the *Kombucha Crafter's Logbook*! This journal has been specially created as a helpful companion for brewers to track their batches and SCOBYs.

Great-tasting, healthy, and affordable homemade kombucha is accessible to everyone. Why pay someone else to make it for you when you can take the process into your own hands and make something that's truly your unique creation?

It's simple once you get into the rhythm of it, but there are a lot of variables that differ from brewer to brewer, and even batch to batch. Here, you'll find a solid methodology to use as a jumping-off point. The recommendations outlined here are intended to produce resilient cultures, consistent carbonation, and delicious kombucha with each brew.

There is always room for experimentation, so once you understand the kombucha "rules," it's fun to get creative. Keep track of your variables, and see how tweaking parts of the process can change the final outcome. Take notes, go with the kombucha flow, and revel in the fact that you're making a real, raw, natural product. You'll find there are infinite possibilities for successful kombucha brewing.

Take a look at the sample entry for the Brewer's Log on page 2 to get some ideas on how to use this journal and track your first and second fermentation cycles. You can check off to-dos in your brewing process and take note of observations as your brews progress—things like color, aroma, taste, carbonation levels, pH, temperature fluctuations, and changes in your SCOBY's appearance.

Following the sample Brewer's Log is a sample SCOBY Log (page 4) that shows how to keep track of your care schedule. Make a note whenever you feed or trim your SCOBYs, and jot down any characteristics the SCOBYs impart on your brews—like acidity, sweetness, carbonation, and even appearance.

Enjoy the trial and error. You'll also find recipes, charts, and troubleshooting sections to reference as you travel along your kombucha journey. After all, this is a living thing, so your batches will evolve as the seasons change, SCOBYs grow, and the process is adapted to suit your preferences. These logbook pages will serve as a home for all your creative brews, and you'll have a keepsake of your kombucha tricks, tips, and recipes to use and share for years to come.

Happy brewing!

SAMPLE BREWER'S LOG

First Fermentation

Batch Number/Name #11 **Yield** 1 gallon

Brew Type ☑ Batch ☐ Continuous **Date Begun** 6/10/19

Average Room Temp. 76° **Storage Location** Living room Bookcase

Ingredient	Amount + Type	Details	Notes
☑ Water	4 cups boiling + 10 cups cold	Source: filtered water from fridge	
☑ Tea	2 tbsp. English Breakfast 1 tbsp. Assam	Steep Time: 20 min.	Trying a new blend of black teas.
☑ Sugar	¾ cup white cane sugar	Pre-SCOBY Temp.: 83°	
☑ Starter Tea	2 cups	Starter pH: 2.8	Smells very vinegar-y.
☑ SCOBY	6-inch diameter, ¼-inch thick	Hotel Name: Heartbuch Hotel	

Observations

Date	Notes
6/11	pH: 3.9. SCOBY is at the top of liquid. We're in good shape!
6/15	A thin new layer of SCOBY is growing at the top.
6/16	Tasted pretty sweet but starting to get acidic. pH is 3.7. Some cloudy yeast at bottom of vessel.
6/19	Brew has lightened in color. Aroma is vinegar-like, and SCOBY baby has grown to ¼-in thick. Still tastes too sweet to bottle. pH: 3.4.
6/23	Nice balance of sweet-tart. pH is 3.2-ready to drink! Bottling it up for 2nd ferment to get a citrusy fizz.

Date Completed 6/23 **Days in First Fermentation** 13

Second Fermentation

Recipe Name Ange's Brew (Tangerine Rosemary) **Date Bottled** 6/23/19

Bottle Type Flip-top clear glass **Bottle Volume** 16 oz. **Bottles Used** 8

Batch Used #11 **Average Room Temp.** 78° **Storage Location** kitchen cupboard

Ingredient	Amount	Notes
Tangerine juice	2 cups	Freshly juiced! Used ~ 2 oz. per bottle
Rosemary (fresh)	8 sprigs	

Observations

Date	Notes
6/23	Filled 8 bottles with ~ 1-in headspace at top.
6/26	Chilled a bottle and tested for carbonation. Fizzy, but could use another day. Will leave at room temp to ferment.
6/27	Chilled another bottle and tested. Success! Perfect carbonation.
"	Baby SCOBY formed around rosemary + tangerine pulp. Strained before serving.

Final Tasting Notes

Mellow honey-like sweetness and herbal refreshing flavor. Might add tangerine zest next time!

Date Refrigerated 6/27 **Days in Second Fermentation** 4

Total Days (Start to Finish) 17

SAMPLE SCOBY LOG

SCOBY Hotel Name Heartbuch Hotel **Tea and Sugar Type** English Breakfast, white cane

Date Started 5/8/19 **SCOBY Source** From Ryan **Storage Location** Living room bookcase

---

Date 5/29 **Temperature** 76° **Liquid Amount** vessel is 3/4 full

Fed with... n/a **Trimmed** n/a

Notes This SCOBY has given my brews a delicious balance of tea flavor and sweet/tart acidity. Good amount of yeast = good fizziness.

Date 6/23 **Temperature** 75° **Liquid Amount** vessel is half-full

Fed with... 2 cups kombucha from first fermentation **Trimmed** Top layer too thick - cut into ~ 4-oz. pieces.

Notes A little bit of stringy brown yeast is on SCOBYs—not too much, so I'm leaving them in the vessel. Some cloudiness/yeast settling at bottom of vessel.

Date 7/5 **Temperature** 80° **Liquid Amount** vessel is 1/3 full

Fed with... 1 tbsp. sugar + 1 cup tea (cooled) & 1 cup kombucha from first fermentation **Trimmed** n/a

Notes A few older SCOBYs have turned brown. They're still making tasty brews, but I decided to compost them to make room for fresh new SCOBYs.

Date 8/14 **Temperature** 84° **Liquid Amount** vessel is only 1/4 full

Fed with... 4 cups kombucha from a first fermentation batch **Trimmed** n/a

Notes

Date 9/2 **Temperature** 78° **Liquid Amount** vessel is half-full

Fed with... 2 tbsp. sugar + 2 cups tea (cooled) **Trimmed** Split a SCOBY in half to give one to Amy

Notes Also took out 2 cups of starter tea to give to Amy along with SCOBY.

KEY TERMS

activated charcoal: porous, highly absorbent, processed carbon—often used for purification purposes; highly effective for neutralizing odors; also called activated carbon

burping: opening bottles slightly and immediately resealing them to release excess pressure

camellia sinensis: the scientific name (genus and species) of the tea plant

continuous brewing (CB): cyclically making and harvesting kombucha from a crock/vessel (usually with a spigot) which the SCOBY never leaves; sweet tea is added to the vessel on an ongoing basis to replenish the harvested kombucha

dormancy: when bacteria and yeast cultures are inactive and therefore not fermenting and acidifying the kombucha or sweet tea; this often happens in temperatures below 60°F

first fermentation: the process in which sweet tea becomes kombucha after being inoculated by a SCOBY and starter tea

harvest: to withdraw fermented kombucha from a continuous brew vessel to drink immediately or to flavor and bottle for a second fermentation

kahm yeast: a common aerobic yeast; not harmful to humans, but is an indicator of a compromised SCOBY

kombucha: sweet tea which has been fermented after the addition of a SCOBY

pH: a measure of acidity or alkalinity, on a scale of 0 to 14; finished kombucha typically falls within a pH of 2.5 to 3.5

polyphenolic compounds/polyphenols: organic antioxidant compounds (such as flavonoids, catechins, and theaflavins) present in tea leaves, which the kombucha culture feeds on

SCOBY: stands for symbiotic culture of bacteria and yeast; the cellulose mat is also known as the pellicle, mother, culture, or mushroom (though it is not technically a mushroom); it is used during fermentation to inoculate sweet tea with bacteria and yeast to produce kombucha

SCOBY baby: the new SCOBY produced during first fermentation, which can take the shape of the surface of the liquid or simply be a new layer attached to the original SCOBY; during second fermentation, SCOBY babies in the bottle can look like stringy yeast or sediment

SCOBY hotel: the SCOBY storage container

second fermentation: the optional step in which first-fermented kombucha is flavored and bottled to produce carbonation; also known as bottle conditioning

starter liquid/starter tea: unflavored kombucha, used in conjunction with a SCOBY mat to inoculate sweet tea with bacteria and yeast; while most brewers refer to the pancake-looking cellulose mat as "the SCOBY," starter tea also includes bacteria and yeast cultures—and is therefore a crucial part of the SCOBY

tea: beverage made from steeped, processed leaves and buds of the *camellia sinensis* plant; the main classifications of tea are white, yellow, green, oolong, black, and pu-erh; kombucha cultures feed on the polyphenols and caffeine in the tea leaves

tisane: herbs, fruit, or other non-tea botanical infusions steeped in water; tisanes are often mislabeled as herbal "tea," though true tea can only come from the ***camellia sinensis*** tea plant; kombucha cultures may be able to feed on the polyphenols in some tisanes

vinegar eels: nematodes that feed on kombucha cultures; not harmful to humans but is an indicator of a compromised SCOBY

Master Batch Recipe

Use this as a starting point. Once you get the hang of it, you can experiment with your own recipes. **MAKES 1 GALLON**

Equipment

2-quart pot

Fine-mesh strainer (if using loose-leaf tea)

1-gallon glass jar

Food thermometer

Breathable cloth (bandana, fine-weave cheesecloth)

Rubber band

pH test strips/meter (optional)

Pitcher

Funnel

8 (16-ounce) bottles with airtight lids

Ingredients

Water

2 to 3 tablespoons loose-leaf black tea (6 to 9 tea bags)

¾ cup granulated cane sugar

1 SCOBY (3 to 5 ounces)

2 cups starter tea

2 cups second fermentation flavorings (optional)

DAY 1

1. In a medium-size pot, bring 4 cups water to a boil over high heat. Remove from the heat and add the black tea and sugar. Let steep for 20 minutes. Strain and discard the tea leaves, or remove and discard the tea bags.

2. Add 10 cups cold water to the gallon jar. Add the hot tea to the jar and let the mixture cool to between 70° and 90°F.
3. Add the SCOBY and starter tea. Cover the jar with the cloth and secure it with the rubber band.
4. Let ferment at room temperature in a shady spot with good airflow.

DAY 2

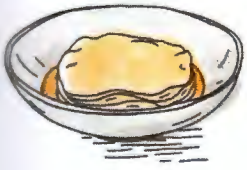
Test the pH (if using) to check for proper fermentation.

DAYS 5 TO 14

Start tasting your brew for doneness. Continue testing pH as needed.

BOTTLING DAY

1. Remove the SCOBY and 2 cups of the kombucha; set aside in a bowl or measuring cup if you plan to make another batch right away or add it to the SCOBY hotel.
2. Add second fermentation flavorings (if using) to the remaining kombucha. Stir well.
3. Pour the kombucha into the pitcher and, using the funnel, pour the kombucha into the bottles. Seal tightly. Refrigerate immediately, or if you would like carbonation, proceed with a second fermentation at room temperature for 2 to 4 days.



Master Continuous Brew (CB) Recipe

Continuous brewing is ideal for unflavored, uncarbonated kombucha available "on tap," though you always have the option to add flavorings to the bottles and let them second ferment. Of course, if you have a larger brew vessel, this recipe easily scales up. **MAKES 2 GALLONS**

Equipment

Large pot

Fine-mesh strainer (if using loose-leaf tea)

2-gallon glass or ceramic crock with spigot

Food thermometer

Breathable cloth (bandana, fine-weave cheesecloth)

Rubber band

pH test strips/meter (optional)

Funnel

About 8 (16-ounce) bottles with airtight lids

Ingredients

Water

6 to 9 tablespoons loose-leaf black tea (18 to 27 tea bags), divided

2½ cups granulated cane sugar, divided

2 to 3 SCOBYs (8 to 12 ounces total)

4 cups starter tea

DAY 1

1. In a large pot, bring 8 cups water to a boil over high heat. Remove from the heat and add 4 to 6 tablespoons black tea and 1½ cups sugar. Let steep for 20 minutes. Strain and discard the tea leaves, or remove and discard the tea bags.

2. Add 20 cups cold water to the crock. Add the hot tea to the crock and let cool to between 70° and 90°F.
3. Add SCOBYs and starter tea. Cover the jar with the cloth and secure with the rubber band.
4. Let ferment at room temperature in a shady spot with good airflow.

DAY 2 TO 14

Start tasting your brew for flavor. Optional: Test the pH to check for proper fermentation.

HARVEST DAY

1. Harvest however much kombucha you want to bottle, pouring it from the spigot and using the funnel to fill the bottles. Make sure to leave at least 4 cups of kombucha in the crock to keep SCOBYs moist. Seal tightly. Either refrigerate immediately or, for flavor and carbonation, let them second ferment at room temperature for 2 to 4 days.
2. Replenish the CB by steeping 2 to 3 tablespoons loose-leaf black tea and 1 cup granulated cane sugar in 4 cups boiling water for 20 minutes. Strain the tea, discarding the tea leaves, and add 12 cups cool water. Make sure to cool the mixture to between 70° and 90°F. Add it to the crock.
3. Let the cycle continue. Each time you harvest, be sure to replenish the CB with the same amount that has been removed from the crock.

TEA TABLE

The teas listed in the table that follows are the most commonly used to experiment and are listed in the order in which they are recommended.

Teas from the camellia sinensis plant are best for kombucha because SCOBYs feed on the polyphenolic compounds and caffeine found in real tea leaves. Loose-leaf teas are higher in quality than tea bags and can withstand longer steeping times. If using tea bags, cut the steeping time in half.

Many brewers also experiment with **flavored tea blends, herbal teas, or tisanes.** They may not have enough polyphenols, so you may want to add a small amount of real tea along with the herbal tea to ensure your SCOBY gets enough nutrients. If you slowly reduce the amount of real tea over time, your SCOBY may adjust to the variety you want to use.

Tea Type	Popular Varieties	Flavor after Fermentation	Steep Temperature and Time	Special Care and Tips
Black	**Assam, Darjeeling, Ceylon, English Breakfast (blend)**	Brisk, bold, and malty with floral hints	212°F (boiling) water; 20 minutes	Great all-around flavor, cost-effective, and plenty of nutrients for the SCOBY.
Green	**Gunpowder, Sencha, Dragonwell**	Grassy, vegetal with some astringency	180°F water; 10 minutes	Avoid over-steeping; some greens get bitter during fermentation from too-hot water or if steeped too long.
Oolong	**Tie Guan Yin, High Mountain, Wuyi, Dancong**	Floral and buttery to deep and earthy	190°F water; 20 minutes	The nuanced flavors can be overpowered by acidity during fermentation. It still makes great kombucha, but you may want to save your best oolongs to drink unfermented.
White	**Silver Needle, White Peony, Shou Mei**	Clean, mellow, and fresh with straw-like aromas	170°F water; 10 minutes	Ideal for those who don't want strong tea flavor in the finished product.

Tea Type	Popular Varieties	Flavor after Fermentation	Steep Temperature and Time	Special Care and Tips
Pu-erh	**Ripe (Shu), Raw (Sheng)**	Shu: funky, earthy, rich Sheng: vegetal, fresh astringency	212°F (boiling) water; 20 minutes	To avoid funky or bitter flavors, rinse the leaves in boiling water. Discard the water and re-steep in fresh boiling water. Low-quality pu-erhs can produce fishy aromas during fermentation. High-quality pu-erhs still make for good kombucha, though some complex flavors may be masked by acidity in fermentation.
Herbal Tisanes	**Hibiscus, Yerba Mate, Rooibos, Butterfly Pea Flower, Chamomile**	Hibiscus: sour and bright Yerba Mate: earthy, slight bitterness Rooibos: sweet, smooth Butterfly Pea and Chamomile Flowers: floral, mellow	170°F water; 20 minutes	Your SCOBY may work with these tisanes. Mold, weak flavors, or poor carbonation might indicate a compromised SCOBY. If using for the first time, add one-part black tea to one-part tisane. Keep herbal SCOBYs in a separate hotel from non-herbal SCOBYs.
Herbal/ Flavored Tea Blends	**Earl Grey, Jasmine Green, Ginger, other fruit-flavored teas**	Earl Grey: brisk, citrusy Jasmine Green: floral, grassy Ginger: warming, spicy Other fruit-flavored teas will vary	Heat water according to package's instructions; steep for 20 minutes	Your SCOBY may or may not work well with flavored teas. Flavorings (especially essential oils or "natural" flavors) can have anti-microbial properties. Look for mold or sulfuric odors which could indicate a compromised SCOBY. If using for the first time, add one-part black tea to one-part herbal/flavored tea. Keep flavored SCOBYs in a separate hotel from non-flavored SCOBYs.

THE SWEET STUFF

When it comes to kombucha, not all sweeteners are alike. Before experimenting, make sure the sweetener you choose is SCOBY friendly.

Sugar

The best sweetener that leads to a consistent, healthy brew is plain white cane sugar, which goes by a few different names. All are great options for kombucha.

- Cane sugar
- Evaporated cane sugar
- Granulated sugar

Natural Alternatives

Minimally-processed cane sugars and natural sweeteners are great, but not all SCOBYs can properly process them. If trying one of the varieties listed, start by using one part plain white cane sugar and one part experimental sweetener. Slowly reduce the amount of cane sugar over time so your SCOBY can adjust to the other sweetener.

- Brown sugar
- Coconut sugar
- Demerara sugar
- Muscovado sugar
- Pasteurized honey
- Pure maple syrup
- Turbinado sugar

Substitutes to Avoid

It's not advisable to use the following sweeteners. SCOBYs can't properly digest or process them and they are likely to starve or weaken over time.

- Agave
- Alternative sweeteners like stevia, monkfruit extract, aspartame, erythritol
- Dextrose
- Powdered sugar
- Raw honey

FERMENTATION TEMPERATURES

Temperature plays a big role in how quickly kombucha ferments. The warmer it is, the faster kombucha acidifies. The ideal room temperature for brew vessels is between 73° and 80°F.

Kombucha will still ferment between 60° and 90°F without severe consequences. Temperatures lower than 60°F put SCOBYs in a state of dormancy, and your brew will be at risk for developing mold. Brews that ferment at lower temperatures generally have less flavor than those that ferment within the ideal temperature range. Temperatures higher than 85°F result in brews that ferment quickly, but develop less desirable astringent flavors as bacteria die, and the yeasts over-populate the brew.

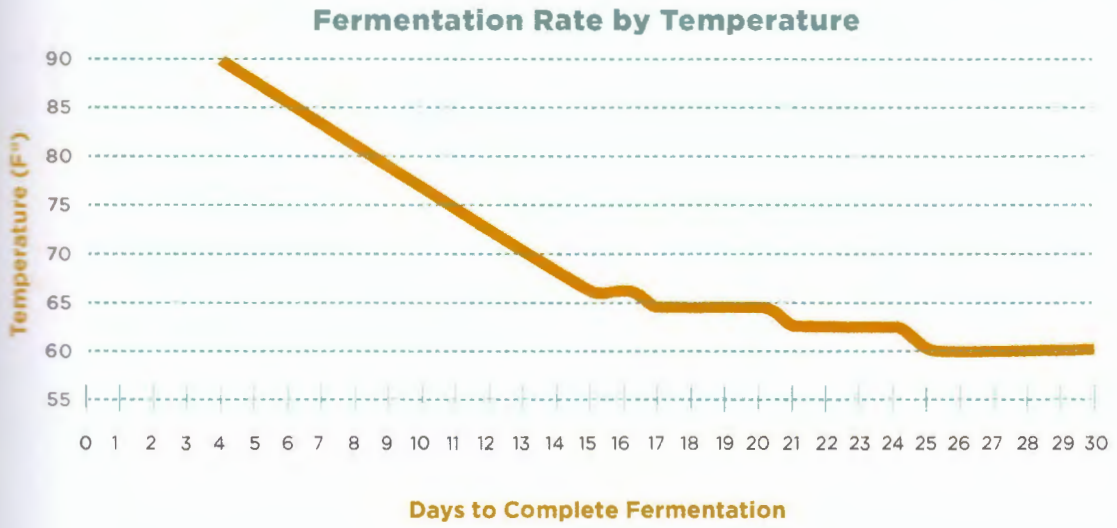
The graph that follows shows how temperature affected the rate of fermentation in a 1-gallon batch. (Your results may vary, depending on things like ingredients and SCOBY used.) Below, "fermentation completion" was determined by a balanced sweet-tart flavor and an approximate pH of 3.2.

Fixed conditions

- 14 cups tea sweetened with ¾ cup sugar
- 2 cups of starter tea at 3.0 pH
- 1 (4 ounce) SCOBY

Variable condition

- Temperature



TASTE TESTS

Throughout the fermentation process, you can rely on your taste buds to tell you when your brew is "done." Use the flow chart to help evaluate your brew's flavor until it reaches your own level of personal perfection.

Start Tasting Here

Too sweet, no acidity.

Continue to taste daily or every other day until . . .

Too acidic and tart, little sweetness.

Use the liquid as starter tea to ferment a fresh batch of kombucha.

Just a little too sweet to drink but has a bit of acidity.

Do you plan to flavor and/or carbonate your brew?

No

Yes

Dilute with sweet tea or sweet fruit juice or puree.

Taste daily and continue fermenting until the kombucha has a nice balance of sweet-tart flavor, without being overly yeasty or bland. Pour into airtight bottles.

Pour the kombucha into airtight bottles (with optional flavorings) for a secondary fermentation at room temperature until the desired carbonation and flavor is reached.

Refrigerate and enjoy!

ACIDITY MEASUREMENTS (pH)

Measuring pH is a good way to ensure your brew is fermenting and acidifying properly. Finished kombucha typically falls within a range of 2.5 to 3.5. The best way to tell if your batch is done is to taste it; however, by using a digital pH meter or test strips, you can troubleshoot mold issues and get an indication of your brew's tartness.

As long as your pH drops below 4.0 approximately 1 day after fermentation, it's typically safe from mold. If the pH is still above 4, add 1 more cup of starter tea to help it acidify.

If you use strips, find a brand that measures the lower end of the pH scale and refer to the color key on the package to interpret the numerical reading.

pH	Acidity similar to:	Indicates:
3.9–4.3	Cherry juice, honey	• Approximate pH with less than 1 day of fermentation
3.5–3.8	Apple juice	• Tartness starts to develop • Kombucha usually falls in this range after 1 to 3 days of fermentation
3.0–3.5	Orange juice	• Tartness is balanced, acidity isn't overpowering • Good pH range to bottle your brew if you intend to do a secondary fermentation
2.5–3.0	Grapefruit/ cranberry juice	• Kombucha is slightly acidic • Great for drinking as-is or for secondary fermentation
2.0–2.5	Lemon juice, white vinegar	• Kombucha is very acidic • Ideal for use as starter tea or for those who enjoy a very sour brew

SECOND FERMENTATION FLAVORS

Here are the basic guidelines when using fruits, vegetables, herbs, and spices for additional flavor. If you want carbonation but no extra flavors, add ½ to 1 teaspoon sugar per 16-ounce bottle, and do a secondary fermentation at room temperature for a few days until desired carbonation levels are reached.

Basic Guidelines

Flavoring type	Amount per 16 ounce bottle	Amount per gallon
Fruit/vegetable juice or puree	¼ to ⅓ cup	2 to 2⅔ cups
Fruit/vegetable pieces or chunks	1 to 2 tablespoons	½ to 1 cup
Dried fruit/vegetable	½ to 1 tablespoon	¼ to ½ cup
Chopped fresh herbs	1 sprig / 1 teaspoon	8 sprigs / 3 tablespoons
Dried herbs	½ teaspoon	4 teaspoons
Spices	⅛ teaspoon	1 teaspoon

Favorite Ingredients

Ingredient	In Season	Pairs Well With	Special Care and Tips
Apple: sweet, tangy	Late summer and fall	Cinnamon	Creates a flavor akin to dry cider.
Beet: earthy	Winter	Pineapple and citrus	Use chopped beets instead of beet juice to avoid overpowering flavors.
Blackberry: sweet, tart	Summer	Thyme and rosemary	Puree berries for big flavor.
Cayenne Pepper: spicy	Year-round	Citrus and ginger	Use sparingly—less than a pinch per bottle—if sensitive to heat.
Chia: gel-like texture	Year-round	Lemon and pomegranate	Pinch dry seeds per 16-ounce bottle or 1 tablespoon per gallon.
Cinnamon: warm, earthy	Year-round	Apples and sweet citrus	
Citrus [sour]: lemon, lime, tangy, bright	Winter	Herbs and berries	Use ⅛ cup per 16-ounce bottle or 1 cup per gallon.

Ingredient	In Season	Pairs Well With	Special Care and Tips
Citrus [sweet]: orange, tangerine, grapefruit, tangy, bright	Winter	Herbs	Add the zest for more depth and flavor.
Ginger: spicy, warm	Year-round	Berries, lemon, and greens	Fresh is preferred. Use slices for a mellow heat. For intense flavor, use ⅛ cup freshly juiced ginger per 16-ounce bottle or 1 cup per gallon.
Goji berry: sweet, slightly tart	Year-round	Lemon and mango	Use ½ teaspoon dried per 16-ounce bottle or 4 teaspoons per gallon.
Greens: vegetal, green, bitter	Spring and summer	Pineapple	Best when juiced fresh or pureed with a sweeter fruit to mask any bitterness.
Mango: tropical, funky	Summer	Citrus, berries	Fresh, frozen, pureed, or in chunks.
Mint: herbal, cooling	Summer	Citrus and pomegranate	Fresh leaves can impart a funky flavor when left in kombucha for more than a few days.
Passion fruit: bright, sour	Summer, fall, and winter	Pomegranate and raspberry	Fresh is ideal when available. If not, frozen pulp is the next best option.
Pineapple: sweet, funky	Spring and summer	Herbs and other tropical fruit	
Pomegranate: bold, sweetness	Fall and winter	Passion fruit and citrus	Crush arils (seeds) to allow juice to escape. Store-bought juice works well, too.
Raspberry: mellow, floral	Summer	Lemon and ginger	Puree fresh or frozen raspberries.
Rosemary: herbal, fresh	Year-round	Sweet citrus	
Thyme: mellow herbal depth	Summer and fall	Berries	
Turmeric: earthy, slightly bitter	Summer and fall	Citrus and pineapple	Use dried sparingly to avoid bitterness—about ¼ teaspoon per 16-ounce bottle or 2 teaspoons per gallon. With fresh, use 1 teaspoon juice per 16-ounce bottle or 3 tablespoons per gallon.

MEASUREMENT CONVERSION TABLES

Temperature Conversions for Kombucha Brewing		
Fahrenheit	**Celsius**	**Notes**
212°	100°	Boiling point of water, ideal steeping temp for black/pu-erh tea
190°	87.8°	Ideal steeping temp for oolong tea
180°	82.2°	Ideal steeping temp for green tea
170°	76.7°	Ideal steeping temp for white tea and herbal tisanes
90°	32.2°	Ensure sweet tea is below this temp before adding SCOBY
85°	29.4°	The high end of the spectrum for fermenting kombucha
80°–73°	26.7°–22.8°	Ideal range for fermenting kombucha
70°	21.1°	Ensure sweet tea is above this temp before adding SCOBY
60°	15.6°	Low end of the spectrum for fermenting kombucha
55°	12.8°	SCOBY/brew at risk for dormancy or mold

Weight/Mass Conversions for Kombucha Brewing												
Ounces	1	2	3	4	5	6	7	8	9	10	11	12
Grams	28	57	85	113	142	170	198	226	255	283	312	340

Volume Conversions for Kombucha Brewing			
Fluid Oz.	Cups	Gallons	Milliliters (ml)/Liters (L)
1	⅛	—	29 ml
2	¼	—	59 ml
4	½	—	118 ml
8	1	—	237 ml
16	2	⅛	473 ml
32	4	¼	946 ml / ~ 1 L
64	8	½	1.9 L
128	16	1	3.8 L
256	32	2	7.6 L

Bottle Yields			
Gallons	Fluid Oz.	# of 16 oz. bottles	# of 12 oz. bottles
1	128	8	11
2	256	16	22
3	384	24	32
4	512	32	43

KOMBUCHA TROUBLESHOOTING

Quick answers to frequently asked questions and problems that arise during the brew process.

Flavor Issues

Why is my kombucha flavorless after first fermentation?

You may not have used enough tea or starter tea. Try increasing the amount of tea by 1 tablespoon and the amount of starter tea by 1 cup.

The batch was stored at too cold a temperature. If the weather is cold and it takes 3+ weeks for your batch to ferment, it may result in bland kombucha. Try fermenting in a warmer room or use a heating pad/heater to keep your batch warm.

Your SCOBY may be compromised. SCOBYs can get weak over time, and it may be time to retire it. SCOBYs that have come in contact with flavorings (even natural ones) in the past are prone to degrading faster and creating off-flavored batches.

Why is my kombucha too sour or astringent?

You may have fermented it too long. You can dilute it with sweet tea or fruit flavorings to offset the sourness. Next time, try to bottle and refrigerate it before it gets too acidic.

The SCOBY may have had contact with vinegar. Vinegar can generate an imbalance of acetic acids, which may cause overly astringent flavors. Starter tea is the best way to acidify your kombucha without putting it at risk for off-flavors.

Why is my kombucha too yeasty?

It was stored at too warm a temperature. Try fermenting it in a cooler spot, ideally between 73° and 80°F. If you didn't stir your kombucha before bottling or if you CB, your batches may be prone to yeast imbalances. Always stir kombucha liquid prior to bottling. You can also rinse off stringy brown yeast from SCOBYs to lessen yeast flavors.

Carbonation Issues

Why aren't my bottles getting fizzy?

- **The bottles were not airtight**. A rubber seal or ring can help.
- **The ferment was not long enough.** Give it enough time at room temperature to build carbonation. Burping can often hinder proper fermentation and prevent carbon dioxide from being trapped in the liquid where it belongs.
- **You removed the brown, stringy yeast**. This substance actually helps create carbonation in your bottle so don't take it out if you want more fizziness. You can always strain it out before drinking.
- **The yeast didn't have enough sugar to eat.** As the yeast feed on sugar, they produce carbon dioxide. Natural sugars from fresh fruit juices/purees yield the best carbonation results.

My kombucha is too carbonated and makes a mess when I open it.

You probably fermented too long. Always chill kombucha before testing it for carbonation. If it still makes a mess after it's been refrigerated, you may have second fermented it at room temperature too long. Next time, try refrigerating it sooner.

Why are my kombucha bottles inconsistently carbonated, even when I bottle from the same batch?

The kombucha was not stirred thoroughly before bottling. Yeast has a tendency to settle at the bottom of fermentation vessels. By stirring, you evenly disperse the yeast throughout the liquid, so all your bottles have consistent carbonation.

My bottles are carbonated at room temperature, but why are they flat when I chill them?

You probably haven't fermented long enough. Be sure to chill your bottles before testing carbonation levels, since that'll give you a more accurate picture of how carbonated your liquid actually is. Carbonation is exaggerated at room temperature because cold liquids trap carbon dioxide better than warmer liquids. When you open a bottle at room temperature, it could fizz

right out of the bottle and make a mess. That same bottle—if chilled—may still be bubbly, but those bubbles are trapped in the liquid. If you prefer more fizz, continue fermenting the bottles at room temperature for 1 to 2 more days. Then chill them before testing again.

Off Odors

I don't like the vinegary aroma coming from my brew vessels. What can I do about that?

Buy an activated charcoal sachet. If you keep the sachet near your brew vessels, it will absorb and neutralize odors without releasing fumes or chemicals that could negatively impact fermentation.

Why does my kombucha smell like rotting eggs or sulfur?

- **The kombucha is being fermented at too high a temperature.** Higher temperatures often result in yeast imbalances, which will produce off smells. Continue to ferment in a cooler temperature within the ideal range and the issue should go away.
- **Your SCOBY doesn't like one of the ingredients.** If your SCOBY can't digest or process an ingredient, the kombucha will smell off. If you used an herbal/flavored tea or an alternate sugar, try switching to pure tea and plain white sugar and see if that resolves the issue.

Mold

I have weird pulpy bits forming in my bottles. Is that mold?

Don't worry. Your kombucha is fine. During second fermentation, "baby SCOBYs" can form as yeasts digest sugars in the fruit. They can be chewy, stringy or just look like sediment. They're edible, but if the texture isn't your thing, just strain them out. Since SCOBYs are a natural fermentation byproduct, it's hard to completely stop them from forming. However, the more processed your flavorings are, the less likely you'll produce a SCOBY in the bottle. If you don't want a SCOBY to form, use juices or concentrates that are pulp-free, shelf-stable, and/or pasteurized. Because they are more refined and processed than fresh fruit, the yeast won't have many particles to latch onto and form larger SCOBY formations. Keep in mind that if you do this, your kombucha will likely take longer to ferment and achieve good carbonation, but it will result in a clearer brew.

I've got mold! What should I do?

Sadly, you must throw it away. It's never easy to say goodbye to a brew, and most home brewers experience mold at some point in their kombucha journeys. Start over with fresh sweet tea and a new SCOBY. Use an iodine-based, no-rinse sanitizer (which can be found at beer brewing supply stores or online) to clean any materials that came in contact with the moldy batch.

How do I make my batches mold-proof?

- **Use enough starter.** To make your brew inhospitable to mold, the sweet tea needs to start fermenting and acidifying as quickly as possible. Without enough starter tea, it might take too long to acidify your brew, and that's when mold can strike. Use at least 2 cups of acidic starter tea per gallon. Check the pH after one day of fermentation. If pH is below 4.0, you're in good shape. If it's above 4.0, add another cup of starter tea to inoculate it with more good bacteria and yeast.
- **Watch the temperature.** Drops in temperature can cause SCOBY dormancy and slow fermentation, which invites mold, so it's a good practice to increase the amount of starter tea you add to your brew when the weather turns colder. Try adding 3 cups of starter instead of 2. Keep it in a warm spot or use a heating pad to keep it in the ideal temperature range.

Storage

How long will my kombucha keep once refrigerated?

Up to 1 year. Kombucha can last a year or sometimes more when refrigerated. The fermentation will slow down quite a bit, but it won't come to a total stop. As it gradually ferments, it will get bubblier and less sweet, which is why it won't last forever. To prevent messes from over-carbonation, burp the bottles every month or two if you keep them in the refrigerator long-term. You can also use the refrigerator to age kombucha and create deeper flavors. Four or more months of cold storage can make kombucha taste like a great dry cider.

BREWER'S LOG

First Fermentation

Batch Number/Name _____ **Yield** _____

Brew Type ☐ Batch ☐ Continuous **Date Begun** _____

Average Room Temp. _____ **Storage Location** _____

Ingredient	Amount + Type	Details	Notes
☐ Water		Source:	
☐ Tea		Steep Time:	
☐ Sugar		Pre-SCOBY Temp.:	
☐ Starter Tea		Starter pH:	
☐ SCOBY		Hotel Name:	

Observations

Date	Notes

Date Completed _____ **Days in First Fermentation** _____

Second Fermentation

Recipe Name _____ **Date Bottled** _____

Bottle Type _____ **Bottle Volume** _____ **Bottles Used** _____

Batch Used _____ **Average Room Temp.** _____ **Storage Location** _____

Ingredient	Amount	Notes

Observations

Date	Notes

Final Tasting Notes

Date Refrigerated _____ **Days in Second Fermentation** _____

Total Days (Start to Finish) _____

The last two pages are repeated until the next page 174

The last two pages are repeated until the next page 174

BREWER'S LOG

First Fermentation

Batch Number/Name _____ **Yield** _____

Brew Type ☐ Batch ☐ Continuous **Date Begun** _____

Average Room Temp. _____ **Storage Location** _____

Ingredient	Amount + Type	Details	Notes
☐ Water		Source:	
☐ Tea		Steep Time:	
☐ Sugar		Pre-SCOBY Temp.:	
☐ Starter Tea		Starter pH:	
☐ SCOBY		Hotel Name:	

Observations

Date	Notes

Date Completed _____ **Days in First Fermentation** _____

Second Fermentation

Recipe Name _____ **Date Bottled** _____

Bottle Type _____ **Bottle Volume** _____ **Bottles Used** _____

Batch Used _____ **Average Room Temp.** _____ **Storage Location** _____

Ingredient	Amount	Notes

Observations

Date	Notes

Final Tasting Notes

Date Refrigerated _____ **Days in Second Fermentation** _____

Total Days (Start to Finish) _____

TAKING CARE OF A SCOBY

SCOBY storage containers, called hotels, are the best place to keep SCOBYs healthy when you aren't actively brewing a batch of kombucha or want to take a break from brewing. Some people use them to make a "factory" for strong, acidic starter tea for future kombucha batches. Hotels are also a good place to store new or extra SCOBYs as your batches produce them. Whether you're a batch brewer or continuous brewer, it never hurts to have backups.

SCOBY Maintenance Schedule

Follow these basic steps to ensure a healthy SCOBY.

1. Place the SCOBY in a clean, glass container (the hotel) until you're ready to brew with it. Make sure there's enough kombucha or sweet tea to keep it moist. One-gallon glass Mason jars work great. Food-safe plastic is fine for temporary storage (less than 24 hours or so). Keep the SCOBY hotel covered with a cotton cloth secured with a rubber band.
2. Keep the container at room temperature: between 73° and 80°F is ideal, but between 65° and 90°F is fine. If SCOBYs are kept too cold for extended periods of time, they could go dormant and get moldy. Too hot, and they could die or create overly astringent flavors.
3. Check on it at least every 1 to 2 months to make sure the liquid doesn't completely evaporate and your SCOBYs don't dry out. If the liquid is running low, it's time to feed your SCOBYs. Dissolve 1 tablespoon sugar into 1 cup unflavored tea. Make sure the tea is at room temperature before adding to your hotel. Alternatively, you can feed it with 1 to 2 cups unflavored kombucha from a freshly brewed batch.
4. When the SCOBY grows to more than 1 inch thick or becomes too unwieldy for your brewing vessel, use clean hands or scissors to separate or trim SCOBYs. You can share scraps with a friend or continue to keep them in the SCOBY hotel.

Use the SCOBY Logs (starting on page 182) to help keep track of your SCOBY hotels and maintenance schedule. You can use them to keep track of SCOBYs from different sources or experimental SCOBYs that you feed with herbal/flavored teas, alternative sweeteners (like honey or brown sugar), or other ingredients.

SCOBY TROUBLESHOOTING

Quick answers to frequently asked questions and problems that may arise with a SCOBY.

SCOBY Growth and Health

Why aren't my SCOBYs growing?

Not every batch results in SCOBY growth. In cold weather especially, you might find that your SCOBYs are paper thin, or your batches may not produce a new one at all. As long as your batch is acidifying, it's still safe to drink whether or not a new SCOBY forms. Moving your vessel or checking the pH too often can also cause SCOBYs to sink before they can thicken or develop into a cohesive SCOBY formation.

Why is my SCOBY "climbing" out of its vessel?

Carbon dioxide is probably building up beneath your SCOBY. The bubbles will push it up and out of the liquid, so if you notice this happening in your vessel, just poke it back down.

I kept my SCOBY in the refrigerator. Why isn't it fermenting my kombucha properly?

The SCOBY is probably dormant. Cold temperatures put kombucha yeasts and bacteria into a state of dormancy, so even if you take it out of the fridge to brew a batch of kombucha, it may take days or weeks for your SCOBY to acclimate, wake back up, and start acidifying the brew. That could lead to mold growth, so take the extra step and add more starter tea to your batch. It's possible to safely store SCOBYs in the refrigerator, but they really thrive at room temperature. Putting SCOBYs or kombucha vessels in the fridge may actually expose your kombucha to more risk than it's worth, since your culture absorbs flavors and odors from its environment. Plus, if you happen to accidentally leave moldy food in the fridge (it happens to all of us!), the SCOBY could become compromised.

Why is my SCOBY no longer acidifying my brew? Has it died?

- **Possibly.** If you've reused this SCOBY several times and it's not acidifying or carbonating your batches like it used to, it may just be time to retire it.
- **It may be weakened.** If you used herbal/flavored teas or alternate sugars during the first fermentation or in your SCOBY hotels, those ingredients may have weakened your SCOBY over time. Even natural flavorings like fruit juice, herbs, or flavored teas can degrade your SCOBY and lead to mold or imbalances in the culture. To be on the safe side, save the flavorings for the second fermentation. If you want to use flavored teas or ingredients in the first fermentation or in the SCOBY hotels, reserve some backup SCOBYs in case anything goes awry. Spare SCOBYs are great for breaking kombucha rules and experimenting.

I forgot about my SCOBY hotel and it dried up! What should I do?

It's possible to save it. Add just enough cooled, sweet tea to moisten and barely cover the SCOBYs (1 tablespoon sugar for each cup of tea). Let it ferment at room temperature for 7 to 10 days. If it acidifies and doesn't get moldy, it's safe to keep using the SCOBYs and the fermented tea as starter tea.

Handling and Trimming

What if I drop my SCOBY on the floor?

Don't worry, just clean it off. Rinse it with some acidic starter liquid, making sure to remove any dust or dirt particles. Then, use it as you normally would.

Do I need to sanitize/sterilize my hands or equipment before touching the SCOBY?

No. Just make sure everything is clean and rinsed thoroughly with water. Avoid letting soap or antibacterial cleansers come into contact with your SCOBY.

Pests

What if my SCOBY has been infected with kahm yeast or vinegar eels?

You'll probably need to toss the batch. Neither are harmful to humans, so no worries if you accidentally ingest it. This does signal an imbalance in your culture, which likely won't produce healthy, delicious kombucha. Throw it away, clean your materials, and start over with a fresh SCOBY and starter tea. It's hard to avoid kahm yeast, since it's common in many environments. To avoid vinegar eels, avoid letting raw vinegar come into contact with the kombucha.

How do I get rid of fruit flies around my SCOBY hotels?

Trap them. Fruit flies love swarming around SCOBY hotels and kombucha vessels. To get rid of them, pour a small amount of kombucha into a narrow-necked bottle. The flies will be attracted, land in the liquid, and have a hard time getting out. Avoid using citronella candles, sprays, or other insect repellents in close proximity to your brew vessels, since the odors and chemicals may seep into your cultures or kombucha. Not yummy.

SCOBY LOG

SCOBY Hotel Name _____ **Tea and Sugar Type** _____

Date Started _____ **SCOBY Source** _____ **Storage Location** _____

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

SCOBY LOG

SCOBY Hotel Name _____ **Tea and Sugar Type** _____

Date Started _____ **SCOBY Source** _____ **Storage Location** _____

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

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The last two pages are repeated until the next page 186

SCOBY LOG

SCOBY Hotel Name _____ **Tea and Sugar Type** _____

Date Started _____ **SCOBY Source** _____ **Storage Location** _____

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

SCOBY LOG

SCOBY Hotel Name _____ **Tea and Sugar Type** _____

Date Started _____ **SCOBY Source** _____ **Storage Location** _____

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

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Fed with... **Trimmed**

Notes

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

Date **Temperature** **Liquid Amount**

Fed with... **Trimmed**

Notes

About the Author

Angelica Cadiente Kelly is the founder of You Brew Kombucha, a comprehensive YouTube channel and website dedicated to teaching people how to make homemade kombucha. You'll usually find her writing, creating, or fermenting things in her Los Angeles home with her husband and You Brew Kombucha co-conspirator, Ryan Kelly.

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MAKE EACH KOMBUCHA BREW BETTER THAN THE LAST.

Brewer's log, day one: The journey begins! *The Kombucha Crafter's Logbook* is a custom tracker for your home brewed kombucha adventures, so you can make each batch of "booch" your best yet. This specially designed logbook has space for you to record and detail more than 70 recipes, from ingredients to tasting notes, taking each of your batches through first and second fermentation to the delicious final result.

Along with step-by-step tracking logs, you'll find master recipes for both batch and continuous brewing, as well as pages to record each SCOBY's health and growth. Reference charts for pH levels, 7 tea types, fermentation temperatures, and 20 natural flavorings—plus a thorough troubleshooting guide—make fermentation hassle-free!

Master the basics—Easy formulas for a master batch and a master continuous brew allow you to stick to the classics or get creative.

Troubleshooting tips—SCOBY troubles? Kombucha not carbonating? Discover solutions to common issues you might encounter.

Handy charts—Quickly find the info you need with fermentation flavor charts, a pH table, taste-test flowchart, and more—all in one place.

ANGELICA CADIENTE KELLY is the founder of You Brew Kombucha, a comprehensive YouTube channel and website that shows how to make homemade kombucha. You'll usually find her writing, creating, or fermenting things with her husband and co-conspirator, Ryan Kelly.

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